JRAC Demonstration Project

12-15 July 2004

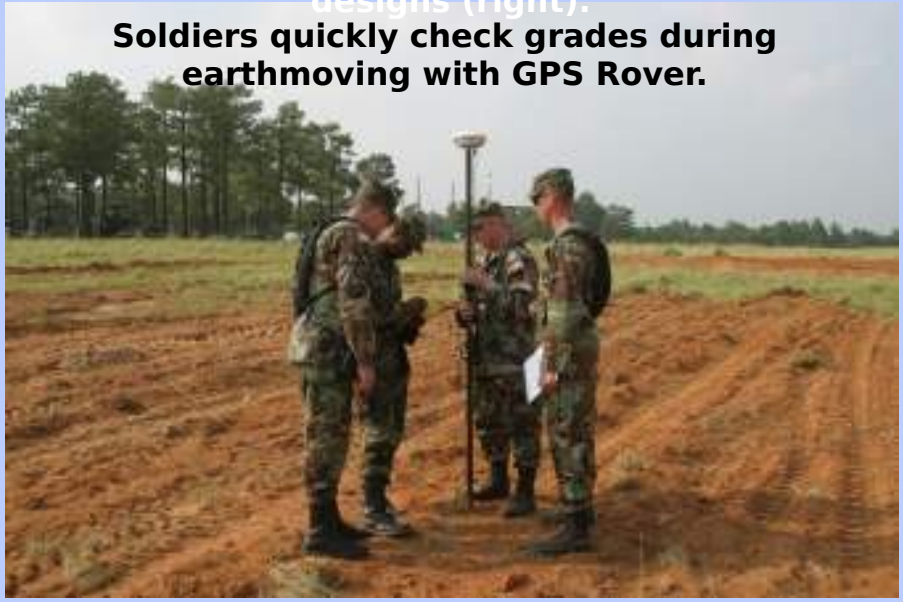
Sicily Assault Landing Zone
Ft. Bragg, North Carolina

Monday, July 12 – Site Assessment, Design, Begin Earthmoving

The RAVEN (Rapid Assessment Vehicle – Engineer) began the project just after midnight, in the dark and in the rain.

After collecting survey data through the night, soldiers gather around the RAVEN to conduct soil tests (left) and produce the digital designs (right).

Digital topography and design files are loaded into GPS-instrumented machines to begin earthmoving.



Soldiers quickly check grades during earthmoving with GPS Rover.

Tuesday, July 13 – Complete Earthmoving, Stabilization of Apron 1

Soldiers assembling 20,000 sq ft of fiberglass-reinforced matting to cover half of Apron 1.

Completing grade work on front half of Apron 1 as mats are being placed on back half of apron.

Spotting bags of cement on Apron 1 surface, just before quick spreading with garden rakes and shovels.

Soil stabilizer mixes cement and liquid polymer from connected supply tank into Apron 1 soil at 6-in. depth.

Wednesday, July 14 – Visitors Day, Stabilization of Apron 2

Visitors are given a brief overview of JRAC demonstration project just before touring construction site.

Visitors observe final mat assembly on Apron 1. Completed polymer/cement section seen on left.

Visitors observe RAVEN performing automated DCP (soil strength) test in autonomous mode (operated remotely through laptop elsewhere on site).

Fibers and cement placed on ground are mixed with water into Apron 2 surfacing at 6-in. depth.

Simultaneous placement of fibers and cement with compaction on Apron 2.

Thursday, July 15 – Visitors Day, C-130 Operates on New JRAC Apron

Joint Rapid Airfield Construction

C-130 lands at Sicily ALZ with new Apron 1 in foreground.

C-130 taxis onto Apron 1 before parking.

JRAC researchers ask Air Force pilots their opinion of the new apron – “A big thumbs up!”

The ERDC team with Ft.Bragg and 412 ENCOM Officers.

Sicily Assault Landing Zone Before and After JRAC

Joint Rapid Airfield Construction

Apron 1

Half Matting and Half Polymer/Cement Stabilized Completed in 48 hours

Apron 2

Fiber/Cement Stabilized Completed in 75 hours

Demonstration Timeline